JOHN TAVERNER

CERTAINE EXPERIMENTS

CONCERNING FISH AND FRVITE

LONDON 1600

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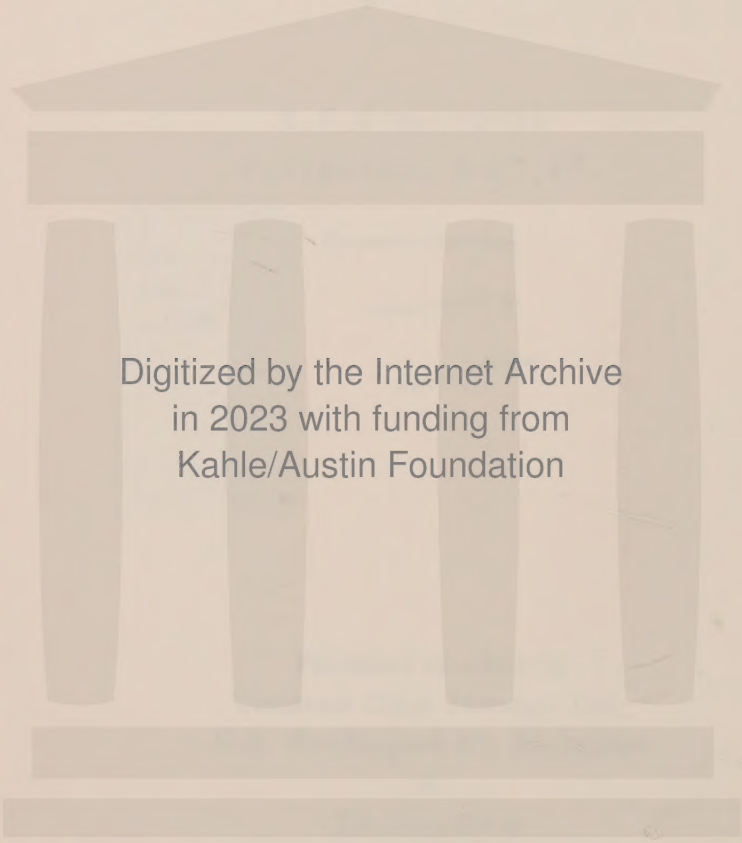

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CERTAINE EXPERIMENTS CONCERNING FISH AND FRVITE:

Practiſed by IOHN TAVERNER Gentleman, and by him publiſhed for the benefit of others.

LONDON,
Printed for William Ponſonby.
1600.

TO THE RIGHT HONORABLE SIR EDMOND ANDERSON KNIGHT, LORD CHIEFE IVSTICE OF THE COMMON PLEAS.

RIGHT Honorable my good Lord, it was my hap lately to light vpon a Book dedicated vnto your Lordſhip, by one M. George Churchey, intituled, A new booke of good husbandrie, and intreating of fiſhponds, and ordering of the ſame: which booke, as it ſhould ſeeme, was firſt written in Latine by one Iames Dubrauius, but tranſlated into Engliſh by the induſtrie of the ſaid Maiſter Churchey, wherin his good meaning and trauell is greatly to be commended. I thereby gathering that your Lordſhip tooke ſome delight in that practiſe, & being before that time minded to put in writing certaine experiments, that my ſelfe had obſerued concerning thoſe matters, did preſently conclude

with my ſelfe, humbly to craue that the ſame may paſſe vnder your L. protection: your vertues alſo deſeruing that I ſhould make choiſe herein of your Lordſhip before others, as one vnto whom the whole commonweale of this Realme in general is greatly bounden, for the great and painfull watchings, care and trauell you take in adminiſtration of Iuſtice in your place and calling: and therefore I in particular, find my ſelfe willing (if by any meanes I may) to moue vnto your Lordſhip any delight or liking, though neuer ſo litle. And if your Lordſhip haue bene any practiſer of theſe delights, I meane making of fiſhponds, or planting of fruite, I doubt not but you ſhal in this litle Treatiſe, find ſomewhat that you knew not before, and thereby your delight that way augmented, which, if it ſo happen to be, my expectation herein is moſt amplie ſatisfied: Beſeeching the Almightie, to bleſſe, preſerue and keepe you and all yours, with ſuch felicitie, as your heart deſireth.

This 22. of Ian. 1600.

You Lordſhips in all humblenes,

IOHN TAVERNER.

To the Reader.

GOOD Reader, in ſeeking to ſhun that Monſter Idlenes, and hauing a deſire by all honeſt meanes poſſible, to benefit this my natiue countrie of England, and finding my abilitie otherwiſe inſufficient to performe the ſame, I haue thought good to ſet downe ſome experiments that my ſelfe haue had concerning fiſh and fruite: of which two things, eſpecially of fruite, although many authors haue more learnedly written, yet many of them being ſtrangers, inhabiting in Climates far differing from ours here in England, doe alſo for the moſt part teach how ſuch fruite as their countries bring forth are to be vſed, of which kind of fruites here in England we haue litle or no vſe. As alſo concerning fiſh, there are none that haue written in our vulgar tong to anie purpoſe that euer I haue ſeene, ſauing that one Maiſter Churchey hath procured to be tranſlated into Engliſh a Treatiſe compiled by a ſtranger, a Morauian (as I take it.) Howbeit by reaſon the tranſlator (as it ſhould ſeeme) had no great experience in that matter, he therfore that ſhall practiſe, ſhall find great want in that booke to ſupplie his deſires that way. Notwithſtanding the good indeuour of Maiſter Churchey is greatly to be commended, neither is my meaning herein to ſay what may be ſaid in theſe matters, but onely what things my ſelfe haue obſerued and practiſed. And if I ſhould ſet downe by way of

preface, the exceeding great benefit that might grow to this Realme, by practiſing to haue aboundance of the two foreſaid cõmodities, the preface would grow to a greater volume then now the whole booke containeth. And although I know that many men can ſay more then my ſelf can do herein, yet I alſo beleeue that moſt men know not ſo much: for whoſe ſake I haue compiled this litle treatiſe, by which, if they take either profit or honeſt pleaſure, I haue my deſire. Farewell.

CERTAINE EXPERIMENTS CONCERNING FISH AND FRVITE.

FIrſt it is requiſite to ſpeake of ponds, I meane ſuch as be neceſſarie, profitable, and conuenient to be vſed with vs here in England, not ſuch in which the prodigall Romains vſed to ſpend their ſuperfluous wealth and treaſure, rather for vaine oſtentation, then for any honeſt recreation of mind, or profite vnto themſelues, or the common wealth: whereunto I wold wiſh our countrey people in all their actions to haue chiefe regard. It ſhould ſeeme that many of the Romains imployed incredible wealth in making of ponds, in which with ſea water, they kept diuerſe kind of ſea fiſh, for delicacie and wantonneſſe, rather then profit: for that ſuch kind of ponds were onely made neare vnto the ſea ſide, wheras the like fiſh might more conueniently be taken in the ſea it ſelfe. I would rather wiſh the greateſt ſtore of our ponds to be made farre vp land in the inmoſt partes of the Realme, vnto which places fiſh cannot well be brought from the ſea, to be eaten freſh whileſt it is good, and

ſweete. The ponds I meane to ſpeake of, ſhall be of two ſorts: the one digged right downe into the ground by labour of man: the other made with a head in a valley betweene two hils, by ſwelling of the water ouer graſſie ground, not in former times couered with water. Thoſe that are digged right downe are for the moſt part but ſmall, and ſerue indeed to little vſe, vnleſſe it be to keepe fiſh in for the winter time, to ſpend as need requireth, or to feede fiſh in: otherwiſe of themſelues they are not able to ſuſtaine any number of fiſh, in any good ſort, to increaſe in growth or goodneſſe of meate, and therefore I meane not to ſpeake much of ſuch ponds. But the other kind of pond made with a head being rightly ordered, as hereafter is mentioned, will giue great nouriſhment to fiſh without any feeding ſaue of it ſelfe. It is therefore requiſite for him that would haue good fiſh, to haue two ſuch ponds with heads ſo made, as with their ſluces he may lay them drie when he pleaſeth, and againe to fill them with water when he ſhall thinke good, to the end that one of them may lie drie one yeare, & the other the next yeare. The greatneſſe of his ponds may be according to the aptnes of the place where he maketh them, and to the coſt he meaneth to beſtow. And that valley that hath not any ſudden deſcent but declineth by little & little, hauing alſo ſome litteli rill or brooke running through it, is fitteſt for this purpoſe: by reaſon that in ſuch places a man ſhall with leaſt charges in making the head ouerflow greateſt quantitie of ground. The ſayd

ponds

ponds are to be made as followeth.

The making of a pond for fiſh.

Hauing a place conuenient, viz. a valley betweene two hilles, and ſome ſmall brooke or rill running through the ſame, you are to dig a channell or pond as it were from the one hill to the other, ouerthwart the valley: and with the earth that you take out of the ſame to make your head. Alwayes making your head downe the ſtreame from the channell, ſo that the channell ſhalbe the deepeſt place of your pond, and in no wiſe to dig any earth, or to make any channell on the backſide of your head: for that will much weaken your head. You muſt alſo begin the foundation of your head not hard by the brim of your channell, but ſome eight or ten foote from the ſame, leaſt the weight of the earth of the head cauſe your head to ſlide into the channell: and raiſe your head not vpright, but ſlopewiſe for caluing or ſlipping downe. And looke how high you meane to make your head, and ſo much it is requiſite to be in breadth in the top thereof, & three times that breadth in the bottome: as for example: If you meane to make your head ten foot high, it had need to be ten foot broade in the top, and thirty foote broade in the bottome, otherwiſe it will hardly lye, but calue and ſlippe downe againe, vnleſſe you force it with timber. Howbeit ſuch may be the nature of your earth, as a light ſand, or onely chalke, that it will not ſtand without timber, otherwiſe a ſtiffe clay

mingled with grauell, is best for such a head: if your soile be a light sand, or altogether a grauell, or chalke, it will hardly hold water. It is not good to put any timber in your head to beare it vp, but rather only earth being broken very smal, and watered with water often times as you raise it: for that will cause it to bind closer and surer then any ramming or timber worke will do. I suppose the Spring time, & Autumne to be best for the making of such heads, especially if you water it well and breake the earth small, that it may drie againe and settle. In the making of the head, you are to lay your sluce in the head against the deepest place of your channell, being made of a whole peece of timber, or at least wise the forepart thereof being a whole peece, and the residue of one or two peeces more, being ioyned very close, and stopped with haire and tarre in the ioynts: for if therein be neuer so small a hole, it will spoyle your head at the sewing of your pond. Hauing made and hollowed your trough, hewen through at the tayle, but close at the end next to the pond, you are to naile thereon a strong boord or planke, very close in all places: or else which is better, a slab being before the hollowing of your trough, sawne from the same: then turne that side downeward, and then the vpper side will be that which before was the bottom of the trough: at the end whereof next to the channell in the vpper part thereof, you are to make the tampion hole square, and likewise make a square tampion to shut close in the same, with a steale, either

Where to lay your sluce.

of

of the ſame peece which is beſt, or elſe ſtrongly mortiſed with a douetaile mortice into the ſayd tampion, and ſo reaching vp as high as the top of your head, or at leaſt to the vppermoſt part of the water. And the beſt faſhion for the head of your ſluſe, is two ſtrong planks, faſtened on each ſide of the tampion hole, being in breadth ſomewhat broader then the ſquare of your tampion, & grated boords nailed before & behind the ſame, ſome two or three foote from the bottome. But for the more ſpeedy ſewing out the water, you may make as it were a noſe of grated boords before the tampion, at the bottome of the ſluce, of ſome three or foure foote long, and a foote deepe. The reſidue of the ſluce may be boorded vp to the top with boords vngrated, and I thinke grated boords to be better for this purpoſe, being made with a hand ſaw, rather then holes made with piercer or augur. The trough of this ſluce had need be layd ſo ſoone as you begin to make your head, becauſe it may conuey the water from you, which elſe will trouble you in making the channell.

The ſluce made, and the channell digged, it may be you ſhall need more earth to be carried in dung-carts or barrowes, which you are ſtill to keepe mingled with water, and the earth broken ſmal: in froſtie weather it is good working of any ſuch head. Alſo take heede you put not in the ſayd head, any dung or turfs of graſſe, that will turne to dung: but onely good earth. When the head is raiſed, it is requiſite to ſettle well before

you fill the same with water, and therefore not good to fill it full the first yeare, but rather halfe full: and to store it with such fish as you meane to keepe therein, in January, Februarie or March: after which time it is not good to carry or handle any fish all the sommer time, vntill it be October or Nouember. The colder the weather is when you handle your fish, the better: vnlesse it be for such fish as you meane to spend presently. But store-fish being taken or handled in hot weather, will be sicke, and not prosper long time after, and perhaps die thereof, although not presently.

When to store your ponds.

Not good to handle fish in hot weather.

And to speake of fish, I meane such as are vsually kept in ponds or lakes, I will deuide them into two sorts: those that liue by rauening and deuouring of other fish, and the others that liue vpon seedes, roots, weeds, corne, wormes, and such like: for as there are some beasts that do liue chiefly and naturally by flesh of other beasts, and other some that liue onely by corne, grasse, fruit, & such like, & will at no time taste of flesh: so there are fishes much like in nature. The fish that liue vpon rauening and deuouring of other fish, are the Pike, the Trought, the Perch, & the Eele: and these kinds will not naturally feede vpon corne, rootes, seeds, grasse, or such like. But the Carpe, the Breame, the Tench, and the Roch, liue naturally vpon corne, seedes, grasse, wormes, bodes, flies, and such like: & will not naturally feede vpon any other fish, neither hath nature giuen them meanes so to do, for that the

Rauening fish.

Fish not of the rauening kind.

the foꝛeſayd deuouring fiſh haue only dog-teeth, oꝛ ſharpe teeth, wherewith they bite and hold any other fiſh that they take: and when that by griping and biting it, they feele it dead, and ceaſe to ſtruggle oꝛ ſtriue, then they ſwallow it downe whole. The other kind do not ſo: but hauing teeth only like vnto man, bꝛoade and flat do grind and chew all their meate beforꝛe they ſwallow it: and it is as vnnaturall foꝛ the Carpe, Bꝛeame, Tench oꝛ Roch to eate another raw fiſh, as it is foꝛ a ſheep oꝛ a cow to eate raw fleſh. The ſharpe and deuouring teeth in the Pike, Perch, Trought & Eele, are eaſily ſeene and perceiued, but ſo are not the flat grinding teeth in the other kind of fiſh. Howbeit if you ſearch diligently the head of the Carpe, Bꝛeame, oꝛ any the other aforeſayd of that nature, & of any bigneſſe, when it is ſodden you ſhall find two neather iawes, hauing in each iaw a row of flat teeth, like to the eye teeth in a man, & apt to grind & chew withall, with which two neather iawes they grind their meate againſt a certaine flat bone in the roofe of their mouth, oꝛ vpper part of their thꝛote, which is commonly called the ſtone in the Carpes head, and is in ſteede of his vpper iaw and teeth, and of many thought to be a remedy foꝛ exceſſiue bleeding at the noſe foꝛ man. The like is in the head of the Tench and Roch, although by reaſon of the ſmalneſſe it is not eaſie to be found. Of the ſame nature alſo is the Barbill, Cheuen, Dace, Bleke, and riuer Roch: although I haue not ſeene them vſually in any pond. Howbeit they wil

liue and wex in a pond, especially the riuer Roch, but not spawne, vnlesse it haue great store of water running through it continually, neither will the Trought spawne in any standing poole, but will liue and grow very fat and good, if the pond be of any greatnesse, as some fiue or sixe acres of ground, or more, and that he may haue good store of small fry to feede on, and will also be very fat and good all the winter long, by reason he doth not spawne as aforesayd.

The best fish in my opinion is Carpe, Breame, Tench, and Perch: howbeit if your pond be not aboue foure or fiue acres of ground, a Breame will be fiue or sixe yeares at the least, before it be of any bignesse to eate, as also they will ouer store any pond with fry, which is a great hinderance to the growth of your bigger fish. Hauing stored your pond, as aforesayd, you shall find that the first yeare your fish will spawne exceedingly. Howbeit if any water run through your pond, your fry will very hardly be kept in: for that all the beginning of the sommer they will go away against the streame: and in the latter end of the sommer they will go away with the streame, if they be not with very good grates kept in, and herein you are to vse very great diligence. And therefore your pond being full of water, it is good to conuey away the residue in some ditch, along hard by the one side of your pond, casting the banke of your ditch toward the pond: the leuel of the water will direct you where to make your ditch: so may your con-

A Breame long in growing, and a great increaser.

The first yeare your fish will spawne exceedingly.

The nature of fish.

uey

uey away your superfluous water. If any water runne through your pond, especially in the Sommer time, it will also make your fish leane with laboring against it, as it is their nature to do, and also in manner impossible to keepe in your frie.

No water to run through a pond in the Sommer time.

A pond being thus ordered, and your fish therein feeding all the Sommer time, it is requisite that about Hollantide next you sew your pond, taking out all your fish: the best, and such as you meane to spend that winter, to put into small ponds, or stewes, whereas with a dragge you may take them againe as you neede to spend them: the other store-fish you may put into the like pond, as aforesayd, either new made, or one that hath lien dry all the Sommer before. Howbeit if you haue any great number of frie, especially of Breame, it were better to preserue but part of them, and the residue to put into some stew or small pond with Pikes: so shall you alwayes haue good Pikes, and also your Carpe, Breame, and Tench will be very fat and good. If your ponds be not ouerstored with fry, your pond being sewed, and your fish bestowed, it is good to let that pond you last sewed, to lie as drie as you can by any meanes all that winter, and the next sommer vntill Michelmas: and then to fill it with water of the first floud that happeneth about that time: and sew your other pond betweene Michelmas and Hollantide, bsing the same as is before rehearsed. As for

How to order your fish at sewing time.

To preserue ouer many fry, is a hinderance to the owner.

To feede Pikes with your superfluous fry.

hauing any fish to spend in the Sommer time, it is requisite to trust to your angle, a bowret, a tramell, or such like: by which meanes you shall seldome faile of some fish for your spending. If you should keepe any Carpe, Breame, or Tench in stewes in the Sommer time, they will wex leane, vnlesse you do feede them with corne: as barly, sod peafe, or oates, or any other kind of corne. It may be heare expected I should set downe some proportion of number of fishes, hauing regard to the greatnesse of your pond, and the greatnesse of the fish. Surely as the fertility of some soyle will nourish double the number of cattle that some others will do, euen so of pondes: if the soyle bee a fat clay, or other good ground, it will nourish double the number of fish, that a leane barren heath ground or drie sand will do. Howbeit the ordering of a pond in such sort as aforesayd, and to lie dry euery other yeare, will much mend any ground euery yeare, especially if in the Sommer time when it lyeth dry, cattell, and especially sheepe may feede and lie therein, as hereafter shall appeare by good reason. Howbeit in an indifferent sorte, I suppose you may well keepe foure hundreth Carpe, Breame, or Tench, for euery acre; supposing your fish to be eight or ten inches in length; and the greater your pond is, the greater number in proportion it will keepe: as for example: a pond of foure acres will much better keepe 1600. fish, then a pond of two

The proportion of fish according to the greatnesse of your pond.

two acres will keepe eight hundreth of like fiſh: for euery hundreth of ſuch fiſh as afore-ſayd, you may keepe halfe a hundreth Perches in the ſame pond, after you are once ſufficiently ſtored of frie, and not before: for that a Perch is a very great deuourer of frie, eſpecially of Carpe. I haue ſeene in the belly of a ſmall Perch fifteene or ſeuenteene ſmall Carpe frie at once: but hauing ſufficient of frie, they do good in a pond, rather then otherwiſe: and will themſelues be very fat and good. The Pike is in no wiſe to be admitted into your great ponds, with your other fiſh, he is ſo great a deuourer, and will grow ſo faſt hauing his fill of feeding, that being but eight or ten inches in the beginning of Sommer, he may be eighteene or twentie inches before Hallantide, at what time he will eate more fiſh euery day, then will ſuffiſe a man, and will feede onelie of Carpe before anie other fiſh, if there be Carpe frie in the pond. Howbeit hauing two ſuch ponds as aforeſaid, made with heads, you ſhall euerie yeare haue ſufficient ſtore of refuſe frie, to feede ſome good number of Pikes withall, wherewith they will be made verie thicke, ſweete, and well growne, but not fatte, vnleſſe you haue ſome ſtore of ſmall Eeles, wherewithall to feede them ſome moneth or ſixe weekes before you take them to ſpend: for that only that feeding vpon Eeles, being cut in peeces, ſo as they may ſtir in the water, and yet not be able to eſcape awaie, will

make the Pikes verie fat.

Causes why ponds shold lie drie euery other yeare.

The causes mouing to haue a pond lie but one yeare with water and fish, and the next yeare emptie and drie, do hereafter ensue. First by that meanes you shall auoide superfluous number of frie, which greatly hinder the growth and goodnesse of your greater fish. Secondly, by that meanes you shall so proportion your pond, that it shall neuer be ouerstored. Thirdly, by that meanes your water shall alwayes be excellent sweete, by reason it ouerfloweth such ground as hath taken the sunne and ayre all the sommer before: wherein also if cattell do feede, or especially be fodered and lie, their dung and stale together with the naturall force of the Sunne at the next Spring ouerflowing with water, will breede an innumerable number of flies, and bodes of diuerse kinds and sorts, which in a faire sunshine day in March or Aprill, you shall see in the water as thicke as motes in the Sunne, of which bodes and flies the fish do feede exceedingly. Also great store of seedes, of weedes, and grasse, shedding that sommer that it lieth drie, is a great feede to your fish the next Sommer after, when it is ouerflowne with water. The sayd bodes doe for the most part breede of the blowings and seede of diuerse kinds of flies, and such like liuing creatures in the sommer, when your pond lieth drie, in the dung of cattell, and otherwise: and take life and being the next Spring time

by

by the naturall heate of the Sunne, together with the moisture of the fat and pleasant water, as aforesaid; for surely many and sundrie kinds of flies that flie about in the ayre in Sommer time, do take life in the water ouerflowing such ground where they haue bene left by the blowings and seede of other flies. And I haue often obserued and beheld in a sunshine day, in shallow waters, especially where any dung or fatte earth is therewith mingled: I say, I haue seene a young flie swimme in the water too and fro, and in the end come to the vpper crust of the water, and assay to flie vp: howbeit not being perfitly ripe or fledge, hath twice or thrice fallen downe againe into the water: howbeit in the end receiuing perfection by the heate of the sunne, and the pleasant fat water, hath in the ende within some halfe houre after taken her flight, and flied quite awaie into the ayre. And of such young flies before they are able to flie awaie, do fish feede exceedingly. Fourthlie, your fish shall euerie yeare haue feeding in proportion to their increasing in bignesse: for it standeth with reason, that Carpes or other fish of twelue inches long, will require more feeding then so many of fiue inches long will do: but chiefly by meanes aforesayd of sewing euerie yeare, you shall haue opportunitie to be rid of the great increase of frie, and your greater fish more sweete and fat then any other hath by farre. What maketh sweete fish.

Fish will liue in a manner in any pond, and without any feeding, or such other industrie as aforesayd: but then they are forced to liue vppon the muddie earth and weedes that grow in such ponds, and being so fedde, they will eate and taste accordingly: and there is as great difference in taste betweene fish that is kept as aforesaid, and other fish that is kept in a standing pond without feeding or other industrie, as is betweene the flesh of a Larke, and the flesh of a Crow or Kite. And I suppose that that is the cause that most men are out of loue with all pond fish, because they neuer tasted of any good or well ordered pond fish.

Great difference in goodnesse of pond fish.

That Sommer that your pond lieth drie, as aforesaid, if there happen to grow any flowre or rancke weedes therein (as many times there will) it is good to cut them vp, and being dried with the sunne, to burne them, so shall you haue sweete grasse, or young weeds come in their place, that cattell will feede on, and also the heate of the fire shall much amend your ground. Also trench out the water, that it may lie as drie as may be possible: and if you can plough it, and haue Sommer corne therein, as Buckwe or Barley that Sommer that it lieth drie, it shall be very good.

I haue heard the common people in the fenne countries affirme, and that very earnestly, that their fishes do feede of ashes, by reason that in a drie Sommer, when much of their

their fenne grounds lie drie, and are pastured with cattell, then towards the winter time such ranke grasse, sedge, reedes, or weedes, as the cattell do leaue vneaten, they will burne them with fire, to the end that the next Sommer such old sedge, reedes, or weedes, may not annoy the cummig vp of young and better sedge, reedes, or grasse. And the common people find by experience, that after such a drie Sommer, as aforesaid, all the next Winter the water ouerflowing those grounds, their fish will be exceeding fat and good: and therefore (say they) surely the fish do feede vpon the ashes of the weeds, and such like burnt as aforesaid. But the truth is, in such a drie Sommer as aforesaid, the cattell then feeding in such grounds as then lie drie, do bestow therein great quantities of dung and stale, wherein is bred great abundance of such bodes, flies, and wormes, as aforesayd: as also the naturall and liuelie heate of the Sunne piercing such grounds, doth make the same pleasant and fat, and to bring forth the next Sommer many hearbes and weedes, the seedes of which do yeeld vnto fishes verie great foode and nourishment, and not the barren drie ashes, as afore is imagined.

Yet that cannot haue such ponds as aforesaid, and hauing but some small mote or other horse-pond in his ground, that standeth continuallie full of water, may often times haue a fish of good fish, if he will bestow some

The second sort of ponds.

How fish may be fed in such ponds.

feeding of corne, as sod barley or pease, cheese-curds, or bloud of beasts, to throw into his pond in the sommer time, for that fish being not of the rauening kind, do then onelie feede. But it behoueth to do it in such sort, as he may be assured that the fish do eate it, and that he be not beguiled with duckes, geese, or such like. He may therefore make a square thing of some two foote broade, of Elme boords, with ledges some three or foure inches deepe, and therein sincke his corne with a line tied vnto the foure corners thereof, so that he may pull it vp and let it downe when he pleaseth, and after the fish haue once found the vse thereof, you shall well perceiue they will haunt it. Sweet graines in small proportion are also good, but if they be once sower or mustie, the fish will not feede on them, and also they will stench your pond. The Tench of all other fish will best like to be fed, as aforesaid, and will be very good, sweete, and fatte, and next vnto him the Carpe.

The Tench good to be fed.

It is with fish as it is with other creatures, for like as one acre of ground, will hardly feede one Ore throughout the yeare, to keepe him in good plight and fat, yet so much corne or hay you may lay in that acre, that you may feede therein ten or twentie oxen. And euen so, although one acre of ground ouerflowed with water, will naturallie, and if it selfe keepe but 300. or foure hundreth Carpes, or other fishes: yet so much feeding you may adde there-

vnto,

unto, that it may keepe three thousand or foure thousand in as good plight as three hundreth or foure hundreth without such feeding. Of all creatures fish are the greatest increasers in number: and so great is the increase of them, that I do verily suppose the Sea it selfe and all fresh riuers likewise, would be ouerstored if they did not deuour one another in very great quantity: yet haue they many other enemies besides fish, that do continually pray and feede vpon them: as, for pond fish first the small Eeles, when the Carps, Breams, Tenches, or Roches do lay their spawne in egges in spawning time, you shall many times see fiue, ten, or more small Eeles follow them, and as the spawne falleth from them they eate it, as also Duckes will do the like. Afterward so soone as it is quicke, the Eele, and especially the Perch, will deuour it in great quantitie before it be able to swimme any thing fast. After that, it is foode for the Kings fisher, all kind of shel-foule, the Bitture, the Hearne, the Cormorant, and the Ospray. And when it is at the greatest, as if it bee a Carpe of three foote long, the Otter will kill him: otherwise all ponds would quickly be ouerstored, if it also go not away with floods, which is greatly to be foreseene. I remember my selfe did once put three spawning Carps into a pond that was some three acres of ground, and with them nine or ten milters about Februarie, and in Nouember next following I did sew the same pond, and of those breeders I had 9000. and vpwards

The great increase of fish.

Eeles and afterward Perches great deuourers of frie.

Fish haue many enemies to destroy them.

of Carpe frie, notwithſtanding all the foreſaid enemies: and ſurely a Breame will increaſe in number much more. The ingendring and breeding of the like fiſh as aforeſaid, I haue noted to be in this manner, ſometime in May, and ſometime in June, as the ſeaſon happeneth to fall out apt for generation, the water by Gods prouidence hauing then a naturall warmth to performe the ſame, the male fiſh by courſe of nature, will chaſe about the female, ſeeking copulation: and as in all other creatures, ſo in this the female ſeemeth to ſhun and flie from the male, ſo that you ſhall ſee three, foure, or fiue male fiſh chaſe one female, and ſo hold her in on euerie ſide, that they will force her to ſwimme through weedes, graſſe, ruſhes, ſtraw, or any ſuch like thing that is in the pond, wherein ſhe being intangled and wearied with their chaſing, they find opportunitie to ioyne in copulation with her, mingling their milt with her ſpawne, ſometime one of them, ſometime another, at which time the ſpawne falleth from her like little egges, and ſticketh faſt to the ſaid weedes: ſome eight, nine, or ten dayes after which time it quickneth, taketh life, and hath the proportion of a fiſh: yea two or three dayes before it quicken, if you take ſuch an egge and breake it vppon your naile, you ſhall perceiue the proportion of a fiſh therein. After it is quicke it moueth very little for ſome fortnight or three weekes, and then it gathereth

How fiſh do breede.

gathereth together into ſculles by the ſhore ſide, where the water is ſhallow: howbeit the Tench frie will lie ſcattering in the weedes, and not flote in ſculles.

And if there run any water from your pond, you ſhall not poſſible keepe Eeles out of the ſame, they will come into the ſame againſt the ſtreame. Their manner of breeding is very vncertaine and vnknowne, but vndoubtedly they are bred in the brackiſh or ſea water: and at the firſt full Moone in Maie they begin to come into all great riuers, and out of great riuers into leſſer riuers, and out of thoſe leſſer riuers into all ſmall brookes, rils, and running waters, continually againſt the ſtreame all the beginning of Sommer: as likewiſe with the firſt floud that commeth about Michelmas, they couet to go downe the ſtreame, and will not ſtay vntill they come into the deepe and brackiſh waters, if they be not taken or letted by the way. I know that ſome hold opinion that they breede of the May deaw, for proofe whereof they ſay if you cut vp two turfes of graſſe in a May morning, and clap the graſſie ſides of thoſe turfes together, and ſo lay them in a riuer, you ſhall the next day find ſmall young Eeles betweene the ſayd turfes: and ſo you ſhall indeede, for the moſt part do. Howbeit not therefore they do breede of the deaw, for if you likewiſe take a little bottle of ſweete hay, ſtraw, or weedes, that haue had no May deaw fallen

The breeding of Eeles very vncertaine and vnknowne.

thereon, and sinke it in a riuer at that time of the yeare, and take it out suddenly the next morning, and you shall find likewise many small Eeles therein. The reason is, at that time of the yeare that riuer being full of such young Eeles, they will creepe into euery thing that is sweete and pleasant. And for proofe that the sayd Eele frie doe come out of the brackish waters against the streame into all other Riuers, Rils, and Ponds, if in the beginning of the Sommer you do diligently obserue at the taile of any water Mill, especially neare vnto any great riuer, you shall see them in great numbers early in the morning, and late in the euening, in June or July at the chinkes and holes in the floud-gates to labour exceedingly to get vp against the streame, although they be often times driuen backe with the violence of the water, yet cease they not still againe to labour vntill they haue gotten vp against the streame. The like do Salmonds, Barbils, Troutes, Roch, Dace, Cheuin, Gogions, and other riuer fish at weres and Dammes in great riuers, for that they couet to spawne in shallow waters, and not in the deepe: the which thing when they haue performed, they then presently couet to go downe the streame, vntill they come vnto the brackish or sea water.

Eeles come from the brackish and sea water.

In the riuer of Seuerne I haue seene great store of these small Eele frie taken going against the streame, when they are no greater then a wheate straw.

Eeles go against the streame, and so doth most other fish in the spring time.

Fish couet to go downe the streame in the latter end of the Sommer.

It may be here expected that I should set downe the baites to be vsed for all kind of pond-fish, for all seasons of the yeare, but therein

Baites for euery seuerall fish.

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I haue not had ſuch exact knowledge to preſcribe vnto the diligent practiſer any better then himſelfe can find out. I haue found that the Carpe, Breame, and Tench, being vſed to feeding, will bite at the red worme, paſte made of dough, or the graſhopper, moſt part of the Sommer ſeaſon. The Tench alſo is a fiſh very eaſilie taken in a Bowne̅t, and whoſoeuer hath of them in his ponds, it behoueth him to take great heede that he be not deceiued by leud people.

The ſhallow or pond Roch with the red fins will ſpawne in moſt ponds. The riuer Roch and Dace will not ſpawne in any pond: howbeit if your pond be neare any riuer, and that there runne any water from it in the Sommer time, you ſhall find that they will come into the ſame againſt the ſtreame, where you would thinke it vnpoſſible: and ſo will Pickerell and Perch. And I haue heard ſome affirme very conſtantly, that water-fowle do often times bring the ſpawne of ſuch fiſh in their feathers into ponds. Others will affirme, that the heate of the Sunne may draw vp ſuch ſpawne of fiſh before it be quicke, and ſo the ſame taking life in the moiſt ayre, may afterward fall downe in a ſhower of raine into a pond: the reaſon that hath mooued many men ſo to thinke, is, becauſe they haue found ſuch kind of fiſh in their ponds, where they are ſure that they nor any other haue euer put any ſuch. Howbeit ſurely the ſame haue come into the ſayd ponds againſt the ſtreame, as

Many opinions concerning breeding of fiſh.

afoꝛeſaid, in Sommer floods, and not by any ſuch other monſtrous generation as is laſt afoꝛe mentioned. And ſomewhat to ſay of the growth of fiſh: as nature may be helped by art in other things, ſo likewiſe in fiſh very much: foꝛ that a Carpe may with feeding the firſt yeare be brought to be ſixe inches long, and the next to twelue oꝛ foureteene inches, whereas in oꝛdinary ponds without feeding, they will hardly be brought to be fourteene inches in fiue oꝛ ſixe yeares.

I do not thinke that ground would yeeld vnto the owner any other way ſo much benefite, as to be conuerted into ſuch ponds with heads as is afoꝛe mentioned, if onely fiſh were ſpent vppon the dayes by-law oꝛdained foꝛ that purpoſe in this Realme: the which thing if it were obſerued, no doubt would turne this Realme to incredible benefite, many and ſundꝛy wayes. But now thoſe that ſhould ſpend ſuch fiſh, will rather beſtow their money in Rabbets, Capons, oꝛ ſuch like. Howbeit I am perſwaded that fiſh vſed as afoꝛeſayd, and dꝛeſſed whileſt it is new taken, is very wholſome foꝛ mans body, and alſo moꝛe delicate then moſt kinds of fleſh.

A Breame will be very long in growing, A Breame very ſlow in growth. beforꝛe it come to any bigneſſe, as commonly fiue oꝛ ſixe yeares beforꝛe he be a foote long, but if your water be not very great, he will hardly be a foote long in ten yeares.

The Tench will grow and pꝛoſper very well: how-

howbeit will neuer be so great as some Carpes will be.

I haue seene a Carpe of xxtiii. inches betweene the eye and the forke of the taile, but neuer any Tench aboue two and twenty inches of like measure. Carpe.

The Pike will grow exceedingly, if he may haue his fill of other small fish: as, the first yeare to twelue or fourteene inches, the next to twenty or two and twenty inches.

And whosoeuer hath ponds with heads as aforesayd, shall euery yeare very conueniently feede some good number of Pikes in some ditch or small stew with refuse frie.

If you haue such ponds as aforesayd, often or twelue acres of ground or more, neare any riuer where Troughts are, you may get Troughts to put into such ponds with your other fish, so there be no Pikes amongst them. Howbeit when you come to sew your pond, and that the water rommeth any thing neare the mud, your Troughts will then die: yet haue I seene them grow exceedingly in such a pond in one yeare, and to be very fat and good: howbeit they must be very charily handled in the cariage, and a few of them caried in a great deale of faire and cleane water, and that in cold weather, and may not be handled with hands, but in a hand-net very charily: and so likewise are all other fish to be vsed, especially such as you meane to keepe for store. Troughts may be kept in ponds.

If you haue Carpes in small ditches, in the

moneth of March, at what time Todes doe ingender, the Tode will many times couet to fasten himselfe vppon the head of the Carpe, and will thereby inuenime the Carpe, in such sort that the Carpe will swell as great as he may hold, so that his scales will stand as it were on edge, and his eyes stand out of his head neare halfe an inch, in very vgly sort: and in the end will for the most part die thereof: and it is very dangerous for any person to eate of any such Carpe so inuenimed.

Fish to be charily handled in the cariage.

It is not sufficient that fish be aliue and swimme away when they are put into a pond, but if they be bruised or take heate in the cariage, they will be long before they recouer againe and fall to their feeding, and sometime neuer recouer, but after long pining and sicknesse, do in the end die also.

The Carpe will abide most hardnesse.

The Carpe of all pond fish will abide most hardnesse in cariage: next to him the Tench, then the Breame, Pike, and Perch. A Carpe in the winter time may be caried aliue in wet hay or grasse that is sweete for the space of fiue or sixe houres.

Tenches and Eeles not be caried with other fish.

If you cary any fish in water, let not the Tench or Eele be caried among them, because they cast great store of slime, which will choke and kill your other fish, especially Pike or Perch.

A Pike will hardly feede of any thing except it stirre and be aliue, but the Perch and Eele will feede of the small guts of sheepe being cut, or of any garbage of Chickens, Coneys, or such like,

like, and of blood of beasts.

The Tench, Perch, and Eele, being vsed to be fed, will not lightly faile to bite at an angle any time the Sommer halfe yeare.

The feeding of frie the first yeare will make them quickly past many dangers, as of being past danger of eating of some other fishes and fowles, as also past danger of going away at grates, or at the holes of water rats in bankes. Also they will be of a larger and greater growth then euer they will be not being fed: and it behoueth to feede them with such foode as they are able to feede on: as, the first moneth with otemeale, or some other meale sodden, and being cold may be like a gelly in thicknesse, a very little in quantity to be laid in shallow places, where onely the frie do haunt, and not the greater fish. A Carpe frie will begin to feede when he is not aboue an inch long, at what time also they will begin to gather together in sculles after some fortnight or three weekes, you may then make their meate thicker, and increase in quantitie as your frie bee of abilitie to eate it, giuing to euerie kind of frie such feeding as his nature requireth.

It is not good to handle any kinde of frie whilest it is very young and tender, or at least wise not in handes, but in some small malbed hand-net, that is flatte and not deepe like a bagge or a sacke, and a few at once, that they rub not one vpon another.

The second yeare you may feede your frie

with sodden barley or maulte steeped in water, and the third yeare with sodden peaſe: for like as any kind of beaſts, eſpecially ſuch as chew not the cud, do take more nutriture out of ſodden corne, then out of corne being raw: ſo fiſhes being of nature more cold then other creatures, take leſſe nutriture of raw corne then any other creatures do. And if you feede your fiſh with raw corne, you ſhall find it come from them in their dung not halfe concocted: whereby a great part of the feeding thereof is loſt and doth no good. It may be demaunded if it will quite the coſt, to haue fiſh in this ſort fed. Surely if corne be not exceſſiue deare, it will beare the charges very well: for that a ſmall quantity of corne will ſuffice a great many of fiſh. Howbeit the other way before mentioned, with ponds with heads, and to lie drie euery other yeare, is leſſe troubleſome, and will breede very excellent, good, ſweete, and fat fiſh: ſo that they bee not ouerſtored, although they haue no feeding by hand.

The more that a pond lieth open vnto the Sunne, the ayre, and the winds, the better it is for your fiſh.

The leaues of any kind of trees, but eſpecially of oke, falling into any pond, is noyſome to the fiſh, and ſo is the greene boughes of oke, or any other wood except willowe.

The haunt of cattell vnto any pond is be-

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rie good, and nourishing to the fish, especially of kine and oxen; and chiefly when such cattell do feede where corne hath bene newly mown or reaped, for that there will then remaine in their dung much corne and seedes of grasse, which the fishes being not of the rauening kind do feede on.

The fish that bee not of the rauening kind, do feede little or nothing in the winter time, but do lie either in holes in the bankes, or in weedes in the bottome of the ponds, to shun the extremitie of cold ayre.

The rauening kind do feede in the winter season, although nothing so much as in the Sommer season.

Some will hold opinion that the Pike will not eate the Perch, because of his sharpe finnes, but I haue often times seene two or three small Perches in the belly of a Pike, and likewise in the belly of an Eele. And I haue likewise seene a Pike choked sometime with eating of a Perch, when as he hath swallowed the Perch with the taile foremost.

But the Pike will not lightly meddle with the Perch if there be any store of other kind of feeding for him in the pond of other small fish.

It is also requisite that the Pike be helped, so that he labour not ouer much in chasing of his pray before he take it, as to haue the tailes of the small fish cut off, when you throw them into the stew or small pond vnto your Pikes, to the

end they may with the more eaſe take them, The Perch and Eele will feed of blood of beaſts as aforeſayd, and likewiſe of the ſmall garbage of ſheepe and ſuch like being cut ſmall, and alſo of ſmall frie of fiſh, either dead or aliue.

THE

THE PREFACE CONCERNING FRVITE.

IF the benefite ariſing vnto the common-wealth through the abundance of fruite were well weighed and pondered, there would be lawes eſtabliſhed for the increaſe and maintenance therof throughout this Realme. Many countries as Glocester-ſhire, Hereford-ſhire, Worceſter-ſhire, great part of Kent and Suſſex are ſo repleniſhed with fruite, that it ſerueth the poorer ſort not onely for foode a great part of the yeare, but alſo for drinke the moſt part of the yeare. I haue knowne in thoſe countries many men that haue 12. or twenty perſons vpriſing and downe lying in their houſes, that do not ſpend moſt yeares two quarters of malt for their drinke (but onely cider and perry) and alſo do yearely ſell great quantitie. And there is no doubt but in moſt countries in England there might be the like, if men would generally plant fruite, and notwithſtanding take as great commoditie in effect by paſturing or earing of their ground as they now do. But in many places the ſhort eſtate that men haue in their holdings, and the diſcommoditie they find in ſtealers, do diſcourage them. Howbeit if men would generally plant in their hedge-rowes,

balkes and other places, it would be a very ſmall matter to any one man, although poore folke did now & then take ſome part of the ſame. Howbeit it were very neceſſary that ſome law were eſtabliſhed to puniſh ſuch offenders, not ſo much in reſpect of the value of the thing, as in that it diſcourageth men to ſet & plant fruite, and that reſpect were had to *Moſes* Law, *viz.* that ſo long as the ſame extendeth but to the filling of their bellies to expell hunger, it is the more to be borne withall: but if they ſhall alſo cary away to any value, there is no reaſon but that it ſhould be ſeuerely puniſhed. I am alſo perſwaded that cider and perry is very wholeſome for the bodies of naturall Engliſh people, eſpecially ſuch as do labor and trauell. It is alſo by experience found to be very good to furniſh ſhips withall for long voyages by ſea, for that a ſmall quantity thereof will reliſh and giue good taſte vnto a great deale of water: and very great commodity might ariſe to this Realme, if we were able to ſpare mault to ſerue the Low countries withall, or rather the ſame being made into beare, for that our Themes water doth for that purpoſe paſſe any other water whatſoeuer: which thing in time might be very commodious vnto our Prince in reſpect of cuſtom, & likewiſe to the whole Realme, in reſpect of maintenance of Nauigation by tranſporting the ſame, beſides other commodities not here to be ſpoken of.

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CERTAINE EXPERIMENTS CONCERNING FRVITE, AS FOLLOWETH.

FOR planting of any great quantity of fruite it is neceſſarie firſt to ſow in ſome bed (being before hand well trenched two foote deepe, and the earth broken ſmall and layd light but not dunged) the kernels of apples, crabs, or pears. A nurcery of plants and grafts.

The kernels of apples may be gotten in ſome good quantitie of ſuch as make apple pies to ſell in markets or market townes. The kernels of crabs or peares, are to be picked out of crabs that are ſtamped for verjuyce, or peares ground or ſtamped for perry: which kernels being ſowne in ſuch beds as afore ſayd, being kept from cropping of cattell or Coneys, and alſo kept with weeding, will in two yeares be ready to remoue and to be ſet in beds three foote aſunder one way, and a foote the other other way, the body being cut off halfe a foote aboue the ground, in which beds hauing ſtood one yeare, they may then be grafted with what fruite you pleaſe:

a handfull aboue the ground is best grafting, which beds being kept with weeding, you may also commodiously plant strawberies vnder your grafts. Within three or foure yeares after the grafting, they will be ready to remoue into an Orchard, where you may plant them to continue: but if you meane to plant them in your hedge-rowes in your ground where cattle commeth, they had need to be of fiue yeares growth after the grafting, because you may then the more conueniently tie bushes about them, or other prouision to keepe them from cattle: but the wild choke peare that is neuer grafted, will make very good perry.

Also one other way to plant an Orchard may be done by planting of small crab-stockes in beds in some nurcery as aforesayd, three foote asunder one way, and one foote the other way, the ground in the sayd beds being first trenched two foote deepe, and the mould laid light, and the stocke cut off halfe a foote aboue ground: and the next yeare the same to be grafted close by the ground, or at the most foure inches aboue the ground, to the end that if the first grafting happen to faile, it may be againe grafted the second time. Howbeit some also do vse to graft fiue or fiue foote high, and vppon great olde stockes, the same is not greatly amisse: howbeit the other way is farre better as I take it, for that the sciences so grafted fiue or fiue foote high, are many times broken downe with foules lighting on them, & many times broken downe with

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the wind in the ioynt when they are 3 or 4. yeares old, which is a great displeasure vnto the owner.

Aboue all things you must foresee, that the ground of your nurserie or orchard be not naturally ouer wet or moist. It cannot lightly be too drie, for that the rootes will naturally run downwards, vntill they came vnto sufficient moisture: but if the roote of anie plant be once set too deepe, he cannot helpe himselfe: it is against nature for the roote to grow vpwards, but will rather grow mossie and die. An especiall note to be obserued.

The third way to plant an Orchard is by setting of slips of trees of cider fruite, which is the speediest & readiest way in shortest time to haue store of such fruite. But that kind of setting both seldome prosper, but onely in some few especiall kind of cider fruite. As also an Orchard so planted, will not continue aboue fortie, or at the most fiftie yeares, but it will decay againe.

In planting of an Orchard the greatest care is to be had, that the ground be not too wet: for that a tree planted in such ground cannot prosper: or if it grow, it will not beare other then spotted and cappard fruite, either apple, peare or plumme, neither will it shoote out or grow in anie good sort. If your ground be naturally wet, it must be holpen with making of trenches betweene euerie couple of trees, so as the water may draine away, at the least three foote deepe: and whereas the ground is inclined to moisture, you are to set your trees verie shallow, as halfe a foot deepe, and rather to caste a hillock of earth about Wet grounds vnfit for an Orchard.

your tree toote, then to set your tree too deepe neare the water. And here note, that euery ground hath an vpper crust of earth, which by the naturall heate of the Sun, & pleasantnesse of the ayre piercing the same, is made more fruitfull then the residue of the earth is: which vpper crust in some grounds is a foote, some two foote, and in some three foote deepe: also in some grounds not aboue halfe a foote deepe. And vnder the same vpper crust is either a hote chalke, a drie sand, a barren grauell, or a cold lean clay, or lome, or such like. It is therefore requisite that you set your yong tree in such sort, as that the rootes thereof may run and spread in that vpper crust, for that if you set him any deeper, you spoile all.

An especiall matter to be noted in planting of any trees whatsoeuer.

In many places in a chalke ground, where such crust as aforesayd is very shallow and not past halfe a foote deepe, you shall see most of the rootes of the Elmes, Albes, and other trees there growing, to runne naturally euen three or foure inches aboue the earth: which thing they do to shun the extreame heate of the chalke. The like experience shall you also see in a wet or moosish ground, a great part of the roote of great trees to runne also aboue the ground, for that they do naturally shunne the extreame wet and cold of such grounds.

The fattest & fruitfullest ground is not best for fruite, for that the trees growing in such ground will be very subiect to be eaten with cankers, as also the fruite will be much wormeaten.

I suppose the best ground for an Orchard is

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a wheate ground, or that which is as it were a mixture of clay and sand, but in no wise inclined to wet or springs of water.

If you plant your trees twenty foote one way and thirty foote the other, you may then very conueniently either plough broade ridges, or mow your Orchard between euery ranke of trees: and such plowing will also do good vnto the roots of the trees, especially if you turne your ground vpward vnto the roots of your trees some three or four plowings together, making your forrow in the middest betweene euery ranke of trees, especially whereas the ground is inclined to wet.

Many men are at great charge, in planting of Orchards, and yet can haue no good fruite, only by reason their trees are at the first set too deepe: howbeit do not perceiue the reason thereof.

It is also requisite that the place where you set your tree, be digged wide and deepe, to the end that the rootes may haue loose earth to run into: by which meanes the roote spreading and increasing, it will send out the more nourishment and strength into the top.

Also when you plant your young trees in your Orchard, it is requisite to cut off all the top, otherwise he will be in danger to die the next Sommer, by reason the roote cannot the first yeare be able to giue nourishment vnto many boughes & branches. Many couet to haue their trees sixe or seuen foote high before they branch out in top, but I haue found very great inconuenience in so doing, for that when such trees come to beare fruite, the bodies will not be able to sustaine the tops, but that they will bend downe, and often times breake in sunder with the weight of fruite: but to braunch at some foure foote in height, I take to

be the best, especially where commeth no cattell to crop them.

In my opinion there were no fruite to be compared vnto the Pippin, if it were not so subiect vnto the canker as it is. There be manie kinds of good apples, howbeit will not beare past once in fiue or sixe yeares to anie purpose. Some other kinds will beare euerie second yeare exceeding full. Of both which sorts I haue diuers kinds, howbeit cannot giue proper names to euerie of them. The good bearing fruite is fittest for cider, so it be also naturally moist and not drie. Howbeit the peare maketh the more delicate drinke then the apple will do: and I haue seene some perrie of that strength, that it will warme the stomacke euen like white wine, and tast as pleasantly. And I am verily perswaded, that a ground planted with wild peares otherwise called choke peares, would be verie beneficiall vnto the owner: for that such kind of fruite is fittest for perrie, as also for the most part doth beare verie full euerie yeare: and vntill your trees be of some ten or twelue yeares growth, you may take commoditie by ploughing or mowing your ground, and grasing the same with horses, and afterward by mowing and grasing the same with any other cattell, especially if you set your trees twentie foote asunder one way, and thirtie foote another way, as aforesaid.

The Peare will prosper in a ground inclined to wet better then the apple will do.

There is a disease in trees which is called a canker

canker, whereunto the pippin chiefly is greatly subiect, and the same doth spoile many trees. I know no better remedie for the same, then to cut it cleane out in the winter time, which oftentimes doth helpe the same, so that the barke will againe ouergrow the sore, and do well: but if it haue once gone more then halfe about the tree, it will hardly be euer recouered: and for the most part the best and most delicate fruite is most subiect to this infirmitie. It may be here expected I should treat of all kindes of grafting, as to graft in the cleft, in the leafe, in the notch, or otherwise: but surely for apples, peares, or most kind of plummes, I haue found to graft in the cleft some foure inches aboue the ground to be the best. Howbeit the Abricocke plumme, the Vine, and such other as haue great store of pith, they are fittest to be grafted in the leafe, or eie (as the call it.) The third way to graft in the noch, the event must be in effect as great as the stocke, and such grafts for the most part grow to be toppe heauie, and therefore that kind of grafting to no great purpose in my opinion.

Some writers teach, that apples may be grafted vpon the willow, the Elme, the Ash, Alder, and such others: but a man had better be without such fruite-trees in his Orchard then to haue them, for that they will haue a tast of the stocke that they are grafted on. An apple is not good to be grafted, but vpon the stocke of the wild apple or crab, as likewise the peare and warden vpon the wild peare stocke.

If you graft a Peare or a Warden vppon a white thorne, it will be small, hard, cappard, and spotted.

The Medler is good to be grafted vpon the white thorne.

The Quince is best to be planted of the wild sciences that grow out of the root of other Quince trees, and so likewise the Philbard.

The Chesnut and Walnut are to be set of Nuts: and besides the commodity of the fruite, do also become very good timber.

The Chesnut timber will outlast the heart of oke, to lie either alwayes wet or alwayes drie, or sometime wet and sometime drie.

The perry wil not last well aboue one yeare, but the cider will last good two or three yeares.

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